

What is claimed is:

1. A power supply topology comprising:

a first path configured to be coupled to a controllable DC power source;

a second path configured to be coupled to a battery;

a third path configured to be coupled to a system load, wherein said first, second, and third paths are coupled to a common node;

a first switch coupled to said first path to allow selective coupling of said controllable DC power source to said system load via said common node; and

a second switch coupled to said second path to allow selective coupling of said battery to said common node.

2. The power supply topology of claim 1, wherein said first switch is closed and said second switch is open in a first power supply mode wherein said controllable DC power source provides power to said system load.

3. The power supply topology of claim 1, wherein said second switch comprises a selectively unidirectional switch having a first discharging closed position configured to permit current flow along said second path in a first direction from said battery to said system load and to prevent current flow along said second path in a second direction opposite said first direction.

4. The power supply topology of claim 3, wherein said first switch is closed and said second switch is closed in said first discharging position in a parallel supply mode to permit both said controllable DC power source and said battery to supply power in parallel to said system load.

5. The power supply topology of claim 3, wherein said second switch further comprises a second charging closed position configured to permit current flow in said second direction and to prevent current flow in said first direction along said second path, wherein said first switch is closed and said second switch is closed in said second charging closed position in a charging supply mode to permit said controllable DC power source to provide power to said system load and to provide power to charge said battery.

6. A power supply topology comprising:

- a controllable DC power source;
- a first path coupled to said controllable DC power source;
- a second path configured to be coupled to a battery;
- a third path configured to be coupled to a system load, wherein said first, second, and third paths are coupled to a common node;
- a first switch coupled to said first path to allow selective coupling of said controllable DC power source to said system load via said common node; and

a second switch coupled to said second path to allow selective coupling of said battery to said common node.

7. The power supply topology of claim 6, wherein said controllable DC power source comprises a DC to DC converter.

8. The power supply topology of claim 7, further comprising a fixed DC power source coupled to said DC to DC converter via said first path, wherein a first power conversion is made by said fixed DC power source by accepting an input voltage and converting said input voltage to a fixed DC output voltage and a second power conversion is made by said DC to DC converter by accepting said fixed DC output voltage and converting said fixed DC output voltage to a DC output voltage.

9. The power supply topology of claim 8, wherein said first switch is coupled between said fixed DC power source and said DC to DC converter.

10. The power supply topology of claim 8, wherein said first switch is coupled between said DC to DC converter and said common

11. The power supply topology of claim 6, wherein said controllable DC power source comprises a controllable adapter.

12. The power supply topology of claim 11, wherein a first power conversion is made by said controllable adapter by accepting an input voltage and converting said input voltage to an output DC voltage to supply to said system load in said first power supply mode.

13. The power supply topology of claim 11, wherein said controllable adapter comprises an ACDC adapter.

14. An electronic device comprising a power supply topology to direct power to various components of said electronic device, said power supply topology comprising:

- a first path configured to be coupled to a controllable DC power source;

- a second path configured to be coupled to a battery;

- a third path configured to be coupled to a system load, wherein said first, second, and third paths are coupled to a common node;

- a first switch coupled to said first path to allow selective coupling of said controllable DC power source to said system load via said common node; and

- a second switch coupled to said second path to allow selective coupling of said battery to said common node.

15. The electronic device of claim 14, wherein said first switch is closed and said second switch is open in a first power supply mode wherein said controllable DC power source provides power to said system load.

16. The electronic device of claim 14, wherein said second switch comprises a selectively unidirectional switch having a first discharging closed position configured to permit current flow along said second path in a first direction from said battery to said system load and to prevent current flow along said second path in a second direction opposite said first direction.

17. The electronic device of claim 16, wherein said first switch is closed and said second switch is closed in said first discharging position in a parallel supply mode to permit both said controllable DC power source and said battery to supply power in parallel to said system load.

18. The electronic device of claim 16, wherein said second switch further comprises a second charging closed position configured to permit current flow in said second direction and to prevent current flow in said first direction along said second path, wherein said first switch is closed and said second switch is closed in said second charging closed position in a charging supply mode to permit said controllable DC power source to provide power to said system load and to provide power to charge said battery.

19. An electronic device comprising:

- a controllable DC power source;
- a first path coupled to said controllable DC power source;
- a second path configured to be coupled to a battery;
- a third path configured to be coupled to a system load, wherein said first, second, and third paths are coupled to a common node;
- a first switch coupled to said first path to allow selective coupling of said controllable DC power source to said system load via said common node; and
- a second switch coupled to said second path to allow selective coupling of said battery to said common node, wherein said first switch and said second switch have a conduction state responsive to a control signal from a power management control circuit.

20. The electronic device of claim 19, wherein said controllable DC power source comprises a DC to DC converter.

21. The electronic device of claim 20, further comprising a fixed DC power source coupled to said DC to DC converter via said first path, wherein a first power conversion is made by said fixed DC power source by accepting an input voltage and converting said input voltage to a fixed DC output voltage and a second power conversion is made by said DC to DC converter by accepting said

fixed DC output voltage and converting said fixed DC output voltage to a DC output voltage.

22. The electronic device of claim 21, wherein said first switch is coupled between said fixed DC power source and said DC to DC converter.

23. The electronic device of claim 21, wherein said first switch is coupled between said DC to DC converter and said common

24. The electronic device of claim 19, wherein said controllable DC power source comprises a controllable adapter.

25. The electronic device of claim 24, wherein a first power conversion is made by said controllable adapter by accepting an input voltage and converting said input voltage to an output DC voltage to supply to said system load in said first power supply mode.

26. The electronic device of claim 24, wherein said controllable adapter comprises an ACDC adapter.

27. A method of providing power to a system load comprising:

providing power from a controllable DC power source to a system load in a first power supply mode; and

providing power from said controllable DC power source to said system load and to a battery in a second power supply mode.

28. The method of claim 27, wherein said controllable DC power source comprises a controllable ACDC adapter.

29. The method of claim 27, wherein said controllable DC power source comprises a DC to DC converter.

30. The method of claim 27, further comprising:

providing power simultaneously from said controllable DC power source and said battery to said system load in a third power supply mode.

31. A method of providing power to a system load, said method comprising:

accepting a first power level from a first power source;

converting said first power level into a dynamically adjustable output DC power level; and

providing said output DC power level to said system load in a first power supply mode.

32. The method of claim 31, further comprising:

providing said output DC power level to said system load and to said battery for charging said battery in a second power supply mode.

33. A method of providing power to a system load comprising:

providing a controllable DC power source;

controlling an output power parameter of said controllable DC power source based on at least one input signal; and

selecting a first power supply mode wherein both said controllable DC power source and a battery are coupled in parallel to provide power to a system load.

34. The method of claim 33, wherein said at least one input signal is

representative of a power condition of said system load.

35. The method of claim 33, wherein said at least one input signal is

representative of a power crises condition wherein an instantaneous power requirement of said system load is greater than a maximum power output of said controllable DC power source and said instantaneous power requirement of said system load is greater than a maximum power output level of said battery.

36. The method of claim 33, further comprising:
preventing cross conduction between said controllable DC power source
and said battery source in said first power supply mode.

37. A power supply system comprising:
a controllable DC power source having a dynamically controllable output
power parameter; and
a power management control circuit configured to control said output
power parameter and to select a first power supply mode wherein said
controllable DC power source provides power to a system load.

38. The power supply system of claim 37, wherein said power
management control circuit is configured to select a second power supply mode
wherein said controllable DC source and a battery simultaneously provide
power to said system load.